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<110> CHANG, HAN  
JACKSON, DONALD  
RAMANATHAN, CHANDRA S.  
CHEN, JIAN  
SIEMERS, NATHAN

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ttgcgggatg agaaggatct aggctgttgtt accaaggact acaacacagg gaaattcacc 660  
tgcacatcgagg taaagttca cctggaaacgg cagatgggctt actatctgtat tcagatgtac 720  
atccccagcc tactcatcgt catcctgtcc tgggtctctt tctggatcaa catggatgtct 780  
gccctgccc gtgtgggcct gggcatcacc accgtgctca ccatgaccac ccagagctct 840  
ggctcccggg cctctttgcc taagggtg 867

<210> 24

<211> 252

<212> DNA

<213> Homo sapiens

<400> 24

aagaccgtgt cccagtggga aaggcacatc ttatgttgga aggggttgga catcaggagg 60  
gatttagact cagcaaggac tcaggctcac tgccctctgc tcaggagagc aaaaccctct 120  
agggtctttt cctgggagag ccagacaacc atgggtgttc agcaggagggg gtctcaggac 180  
aagacctatg aagtgaagat gaacaacgac acagaggcct gcattgagcc cagcctcctc 240  
tccacagaga ta 252

<210> 25

<211> 270

<212> DNA

<213> Homo sapiens

<400> 25

agacaggacc cagtgagcag aggactgtgt ccccataggg aaagacatgt tctggatcag 60  
gcaggtctgg agttcaggaa ggattcaggc tcagtaggga ctccggctca ctgcctctg 120  
cttgggagag caaacccctcc taggtgcttt tccaggaga gcacatagc catgggtgt 180  
caggagaggt ctcagaatga gacttatgaa gtgaagatga acaatgacac agaggcctgc 240  
agtgagccca gtctgctctc cacagagatg 270

<210> 26

<211> 129

<212> DNA

<213> Homo sapiens

<400> 26  
aatcttatgc tagaagctgg agatgatgct ggaaaagtga aatgggtgga catcaatgat 60  
aaactgaagc tttatgccag tcactctcaa ttcatcaaac ttgtggctga gaaacgagat 120  
gcacactgg 129

<210> 27  
<211> 330  
<212> DNA  
<213> Homo sapiens

<400> 27  
ttgctagaag gcgggccta cattaatgag agcaacgacc gtggggaaac cccttaatg 60  
atcgcttgc agaccaaaca tgtcgatcac cagagtgtca gtaaaagccaa aatggtgaaa 120  
tacctgttag agaacaatgc cgatcccaac atacaggaca aatctggaa aacggctctg 180  
atgcatgctt gcttagaaaa agctggccct gaagttgtt cttgtccct caagagtggg 240  
gctgaccta gcttgcaaga ccattctagt tactcagctc ttgttatgc tataaattca 300  
gaagatacag agaccctgaa agttcttctt 330

<210> 28  
<211> 103  
<212> PRT  
<213> Homo sapiens

<400> 28  
Leu Phe Pro Asp Ile Val Glu Leu Asn Val Gly Gly Gln Val Tyr Val  
1 5 10 15

Thr Arg Arg Cys Thr Val Val Ser Val Pro Asp Ser Leu Leu Trp Arg  
20 25 30

Met Phe Thr Gln Gln Pro Gln Glu Leu Ala Arg Asp Ser Lys Gly  
35 40 45

Arg Phe Phe Leu Asp Arg Asp Gly Phe Leu Phe Arg Tyr Ile Leu Asp  
50 55 60

Tyr Leu Arg Asp Leu Gln Leu Val Leu Pro Asp Tyr Phe Pro Glu Arg  
65 70 75 80

Ser Arg Leu Gln Arg Glu Ala Glu Tyr Phe Glu Leu Pro Glu Leu Val  
85 90 95

Arg Arg Leu Gly Ala Pro Gln  
100

<210> 29  
<211> 101  
<212> PRT  
<213> Homo sapiens

<400> 29  
Phe Gln Phe Pro Glu Val Val Pro Leu Asn Ile Gly Gly Ala His Phe  
1 5 10 15

Thr Thr Arg Leu Ser Thr Leu Arg Cys Tyr Glu Asp Thr Met Leu Ala  
20 25 30

Ala Met Phe Ser Gly Arg His Tyr Ile Pro Thr Asp Ser Glu Gly Arg  
35 40 45

Tyr Phe Ile Asp Arg Asp Gly Thr His Phe Gly Asp Val Leu Asn Phe  
50 55 60

Leu Arg Ser Gly Asp Leu Pro Pro Arg Glu Arg Val Arg Ala Val Tyr  
65 70 75 80

Lys Glu Ala Gln Tyr Tyr Ala Ile Gly Pro Leu Leu Glu Gln Leu Glu  
85 90 95

Asn Met Gln Pro Leu  
100

<210> 30  
<211> 50  
<212> PRT  
<213> Homo sapiens

<400> 30  
Gly Asp Cys Arg Met Ala His Ala Glu Gln Lys Leu Met Asp Asp Leu  
1 5 10 15

Leu Asn Lys Thr Arg Tyr Asn Asn Leu Ile Cys Pro Ala Thr Ser Ser  
20 25 30

Ser Gln Leu Ile Ser Ile Glu Thr Glu Leu Ser Leu Ala Gln Cys Ile  
35 40 45

Ser Val  
50

<210> 31  
<211> 96  
<212> PRT  
<213> Homo sapiens

<400> 31  
Val Glu Leu Asn Val Gly Gly Gln Val Tyr Phe Thr Arg His Ser Thr  
1 5 10 15

Leu Ile Ser Ile Pro His Ser Leu Leu Trp Lys Met Phe Ser Pro Lys  
20 25 30

Arg Asp Thr Ala Asn Asp Leu Ala Lys Asp Ser Lys Gly Arg Phe Phe  
35 40 45

Ile Asp Arg Asp Gly Phe Leu Phe Arg Tyr Ile Leu Asp Tyr Leu Arg  
50 55 60

Asp Arg Gln Val Val Leu Pro Asp His Phe Pro Glu Lys Gly Arg Leu

65

70

75

80

Lys Arg Glu Ala Glu Tyr Phe Gln Leu Pro Asp Leu Val Lys Leu Leu  
85 90 95

<210> 32  
<211> 518  
<212> PRT  
<213> Homo sapiens

<400> 32  
Pro Ala Gly Val Thr Val Pro Pro Pro Ser Arg Pro Ser Arg Pro Ala  
1 5 10 15

Gly Leu Phe Leu Arg Ala Asp Thr Gly His Arg Thr Pro Gly Trp Gly  
20 25 30

Gly Gly Gly Gly Ala Gly Gly Arg Gly Gly Ala Ala Pro Gly Pro  
35 40 45

Gly Val Gly Ala Thr Arg Arg Phe Ala Gly Arg Arg Gly Cys Ala Arg  
50 55 60

His Gly Ala Ala Val Pro Ala Ala Val Cys Cys Glu Arg Leu Val Leu  
65 70 75 80

Asn Val Ala Gly Leu Arg Phe Glu Thr Arg Ala Arg Thr Leu Gly Arg  
85 90 95

Phe Pro Asp Thr Leu Leu Gly Asp Pro Ala Arg Arg Gly Arg Phe Tyr  
100 105 110

Asp Asp Ala Arg Arg Glu Tyr Phe Phe Asp Arg His Arg Pro Ser Phe  
115 120 125

Asp Ala Val Leu Tyr Tyr Gln Ser Gly Gly Arg Leu Arg Arg Pro  
130 135 140

Ala His Val Pro Leu Asp Val Phe Leu Glu Glu Val Ala Phe Tyr Gly  
145 150 155 160

Leu Gly Ala Ala Ala Leu Ala Arg Leu Arg Glu Asp Glu Gly Cys Pro  
165 170 175

Val Pro Pro Glu Arg Pro Leu Pro Arg Arg Ala Phe Ala Arg Gln Leu  
180 185 190

Trp Leu Leu Phe Glu Phe Pro Glu Ser Ser Gln Ala Ala Arg Val Leu  
195 200 205

Ala Val Val Ser Val Leu Val Ile Leu Val Ser Ile Val Val Phe Cys  
210 215 220

Leu Glu Thr Leu Pro Asp Phe Arg Asp Asp Arg Asp Gly Thr Gly Leu  
225 230 235 240

Ala Ala Ala Ala Ala Gly Pro Phe Pro Ala Pro Leu Asn Gly Ser  
245 250 255

Ser Gln Met Pro Gly Asn Pro Pro Arg Leu Pro Phe Asn Asp Pro Phe  
260 265 270

Phe Val Val Glu Thr Leu Cys Ile Cys Trp Phe Ser Phe Glu Leu Leu  
275 280 285

Val Arg Leu Leu Val Cys Pro Ser Lys Ala Ile Phe Phe Lys Asn Val  
290 295 300

Met Asn Leu Ile Asp Phe Val Ala Ile Leu Pro Tyr Phe Val Ala Leu  
305 310 315 320

Gly Thr Glu Leu Ala Arg Gln Arg Gly Val Gly Gln Gln Ala Met Ser  
325 330 335

Leu Ala Ile Leu Arg Val Ile Arg Leu Val Arg Val Phe Arg Ile Phe  
340 345 350

Lys Leu Ser Arg His Ser Lys Gly Leu Gln Ile Leu Gly Gln Thr Leu  
355 360 365

Arg Ala Ser Met Arg Glu Leu Gly Leu Leu Ile Phe Phe Leu Phe Ile  
370 375 380

Gly Val Val Leu Phe Ser Ser Ala Val Tyr Phe Ala Glu Val Asp Arg  
385 390 395 400

Val Asp Ser His Phe Thr Ser Ile Pro Glu Ser Phe Trp Trp Ala Val  
405 410 415

Val Thr Met Thr Thr Val Gly Tyr Gly Asp Met Ala Pro Val Thr Val  
420 425 430

Gly Gly Lys Ile Val Gly Ser Leu Cys Ala Ile Ala Gly Val Leu Thr  
435 440 445

Ile Ser Leu Pro Val Pro Val Ile Val Ser Asn Phe Ser Tyr Phe Tyr  
450 455 460

His Arg Glu Thr Glu Gly Glu Ala Gly Met Phe Ser His Val Asp  
465 470 475 480

Met Gln Pro Cys Gly Pro Leu Glu Gly Lys Ala Asn Gly Gly Leu Val  
485 490 495

Asp Gly Glu Val Pro Glu Leu Pro Pro Leu Trp Pro Pro Gly Lys  
500 505 510

His Leu Val Thr Glu Val  
515

<210> 33  
<211> 263

<212> PRT  
<213> Homo sapiens

<400> 33  
Thr Gly Arg Phe Val Leu Leu Ala Ala Leu Ile Gly Leu Tyr Leu Val  
1 5 10 15  
  
Ala Gly Ala Thr Val Phe Ser Ala Leu Glu Ser Pro Gly Glu Ala Glu  
20 25 30  
  
Ala Arg Ala Arg Trp Gly Ala Thr Leu Arg Asn Phe Ser Ala Ala His  
35 40 45  
  
Gly Val Ala Glu Pro Glu Leu Arg Ala Phe Leu Arg His Tyr Glu Ala  
50 55 60  
  
Ala Leu Ala Ala Gly Val Arg Ala Asp Ala Leu Arg Pro Arg Trp Asp  
65 70 75 80  
  
Phe Pro Gly Ala Phe Tyr Phe Val Gly Thr Val Val Ser Thr Ile Gly  
85 90 95  
  
Phe Gly Met Thr Thr Pro Ala Thr Val Gly Gly Lys Ala Phe Leu Ile  
100 105 110  
  
Ala Tyr Gly Leu Phe Gly Cys Ala Gly Thr Ile Leu Phe Phe Asn Leu  
115 120 125  
  
Phe Leu Glu Arg Ile Ile Ser Leu Leu Ala Phe Ile Met Arg Ala Cys  
130 135 140  
  
Arg Glu Arg Gln Leu Arg Arg Ser Gly Leu Leu Pro Ala Thr Phe Arg  
145 150 155 160  
  
Arg Gly Ser Ala Leu Ser Glu Ala Asp Ser Leu Ala Gly Trp Lys Pro  
165 170 175  
  
Ser Val Tyr His Val Leu Leu Ile Leu Gly Leu Phe Ala Val Leu Leu  
180 185 190  
  
Ser Cys Cys Ala Ser Ala Met Tyr Thr Ser Val Glu Gly Trp Asp Tyr  
195 200 205  
  
Val Asp Ser Leu Tyr Phe Cys Phe Val Thr Phe Ser Thr Ile Gly Phe  
210 215 220  
  
Gly Asp Leu Val Ser Ser Gln His Ala Ala Tyr Arg Asn Gln Gly Leu  
225 230 235 240  
  
Tyr Arg Leu Gly Asn Phe Leu Phe Ile Leu Leu Gly Val Cys Cys Ile  
245 250 255  
  
Tyr Ser Leu Phe Asn Val Ile  
260

<210> 34

<211> 43  
<212> PRT  
<213> Homo sapiens

<400> 34  
Ala Glu Gln Lys Leu Met Asp Asp Leu Leu Asn Lys Thr Arg Tyr His  
1 5 10 15  
Asn Leu Ile Arg Pro Ala Ala Ser Ser Ser Gln Leu Ile Ser Ile Glu  
20 25 30  
Met Glu Leu Ser Leu Ala Gln Cys Ile Ser Val  
35 40

<210> 35  
<211> 89  
<212> PRT  
<213> Homo sapiens

<400> 35  
Met Glu Ala Leu Thr Leu Trp Leu Leu Pro Trp Ile Cys Gln Cys Val  
1 5 10 15  
Ser Val Arg Ala Asp Ser Ile Ile His Ile Gly Ala Ile Phe Glu Glu  
20 25 30  
Asn Ala Ala Lys Asp Asp Arg Val Phe Gln Leu Ala Val Ser Asp Leu  
35 40 45  
Ser Leu Asn Asp Asp Ile Leu Gln Ser Glu Lys Ile Thr Tyr Ser Ile  
50 55 60  
Lys Val Ile Glu Ala Asn Asn Pro Phe Gln Ala Val Gln Glu Gly Tyr  
65 70 75 80  
Leu Cys Glu Leu Asn Thr Gln Gly Ile  
85

<210> 36  
<211> 240  
<212> PRT  
<213> Homo sapiens

<400> 36  
Met Leu Arg Pro Leu Ile Thr Arg Ser Pro Ala Ser Pro Leu Asn Asn  
1 5 10 15  
Gln Gly Thr Pro Thr Pro Ala Gln Leu Thr Lys Ser Asn Ala His Val  
20 25 30  
His Thr Asp Val Gly Ser His Met Tyr Thr Ser Ser Leu Ala Thr Leu  
35 40 45  
Thr Lys Tyr Pro Val Ser Arg Ile Arg Arg Leu Cys Asp Gly Thr Glu  
50 55 60

Pro Ile Val Leu Asp Ser Leu Lys Gln His Tyr Phe Thr Asp Arg Asp  
65 70 75 80

Gly Gln Met Phe Arg Tyr Ile Leu Asn Phe Leu Arg Thr Ser Lys Leu  
85 90 95

Leu Ile Leu Asp Asp Phe Lys Asp Tyr Thr Leu Leu Tyr Glu Glu Ala  
100 105 110

Lys Tyr Phe Gln Leu Gln Pro Met Leu Leu Glu Met Glu Arg Trp Lys  
115 120 125

Gln Asp Arg Glu Thr Gly Arg Phe Ser Arg Pro Cys Glu Cys Leu Val  
130 135 140

Val Cys Val Ala Pro Asp Leu Arg Glu Arg Ile Thr Leu Ser Gly Asp  
145 150 155 160

Lys Ser Leu Val Glu Glu Val Phe Pro Glu Ile Gly Asp Val Met Cys  
165 170 175

Asn Phe Ile Ser Ala Gly Trp Asn His Asp Ser Thr His Ile Val Arg  
180 185 190

Phe Pro Leu Ser Gly Tyr Cys His Leu Asn Ser Val Gln Val Leu Glu  
195 200 205

Arg Leu Gln Gln Arg Gly Phe Glu Ile Val Gly Ser Cys Arg Gly Gly  
210 215 220

Val Gly Leu Ser Val Pro Ser Ile Ile Trp Ile Lys Gln Glu Pro Leu  
225 230 235 240

<210> 37  
<211> 50  
<212> PRT  
<213> Homo sapiens

<400> 37  
Gly Asp Cys Arg Met Ala His Ala Glu Gln Lys Leu Met Asp Asp Leu  
1 5 10 15

Leu Asn Lys Thr Cys Tyr Asn Asn Leu Ile Arg Pro Ala Thr Ser Ser  
20 25 30

Ser Gln Leu Ile Ser Ile Gln Thr Ala Leu Ser Leu Ala Gln Cys Ile  
35 40 45

Ser Val  
50

<210> 38  
<211> 38  
<212> PRT

<213> Homo sapiens

<220>

<221> MOD\_RES

<222> (22)

<223> Any amino acid

<400> 38

Arg Lys Arg Gly Asn Pro Pro Ser Gly Gly Pro Thr Ser Leu Phe Ile  
1 5 10 15

Leu Pro Glu Asp Asn Xaa Ile Arg Lys Tyr Thr Arg Phe Ile Ile Lys  
20 25 30

Trp Pro Thr Phe Glu Tyr  
35

<210> 39

<211> 46

<212> PRT

<213> Homo sapiens

<400> 39

Met Asp Asn Arg Gly Phe Gln Gln Gly Ser Phe Ser Ser Phe Gln Asn  
1 5 10 15

Ser Ser Ser Asp Glu Asp Leu Met Asp Ile Pro Ala Thr Ala Met Asp  
20 25 30

Phe Ser Met Arg Asp Asp Val Pro Pro Leu Asp Arg Glu Val  
35 40 45

<210> 40

<211> 95

<212> PRT

<213> Homo sapiens

<400> 40

Met Glu Val Val Leu Ile Phe Leu Cys Ser Leu Leu Ala His Ile Val  
1 5 10 15

Leu Ala Asp Ala Val Glu Arg Glu Lys Gln Ile Asp Pro Phe His Tyr  
20 25 30

Asp Tyr Gln Thr Leu Arg Ile Arg Gly Leu Val Cys Ala Val Val Leu  
35 40 45

Phe Ser Ile Gly Ile Leu Leu Ile Leu Gly Cys Arg Cys Lys Cys Ser  
50 55 60

Phe Asn Gln Lys Pro Arg Thr Pro Gly Glu Glu Ala Gln Val Glu  
65 70 75 80

Asn Leu Ile Thr Ala Asn Ala Thr Lys Leu Gln Lys Ala Glu Ser  
85 90 95

<210> 41  
<211> 143  
<212> PRT  
<213> Homo sapiens

<400> 41  
Val Ser Tyr Val Lys Ala Ile Asp Ile Trp Met Ala Val Cys Leu Leu  
1 5 10 15  
  
Phe Val Phe Ala Ala Leu Leu Glu Tyr Ala Ala Ile Asn Phe Val Ser  
20 25 30  
  
Arg Gln His Lys Glu Phe Ile Arg Leu Arg Arg Arg Gln Arg Arg Gln  
35 40 45  
  
Arg Leu Glu Glu Asp Ile Ile Gln Glu Ser Arg Phe Tyr Phe Arg Gly  
50 55 60  
  
Tyr Gly Leu Gly His Cys Leu Gln Ala Arg Asp Gly Gly Pro Met Glu  
65 70 75 80  
  
Gly Ser Gly Ile Tyr Ser Pro Gln Pro Pro Ala Pro Leu Leu Arg Glu  
85 90 95  
  
Gly Glu Thr Thr Arg Lys Leu Tyr Val Asp Ala Lys Arg Ile Asp Thr  
100 105 110  
  
Ile Ser Arg Ala Val Phe Pro Phe Thr Phe Leu Ile Phe Asn Ile Phe  
115 120 125  
  
Tyr Trp Val Val Tyr Lys Val Leu Trp Ser Glu Asp Ile His Gln  
130 135 140

<210> 42  
<211> 65  
<212> PRT  
<213> Homo sapiens

<400> 42  
Gly Leu Leu Ile Phe Ile Leu Leu Pro Leu Leu Thr Phe Val His Thr  
1 5 10 15  
  
Val Gly Trp Thr Tyr Lys Lys Gly Leu Tyr Phe Ala Leu Thr Leu Ser  
20 25 30  
  
Ile Ile Gly Phe Gly Asp Tyr Val Leu Gly Ile Asn Pro Ser Lys Asn  
35 40 45  
  
Tyr Ser Arg Ile Tyr Pro Ile Ile Arg Ile Leu Trp Cys Thr Phe Gly  
50 55 60  
  
Leu  
65

<210> 43  
<211> 258  
<212> PRT  
<213> Homo sapiens

<400> 43  
Met Arg Arg Pro Ser Val Arg Ala Ala Gly Leu Val Leu Cys Thr Leu  
1 5 10 15  
Cys Tyr Leu Leu Val Gly Ala Ala Val Phe Asp Ala Leu Glu Ser Glu  
20 25 30  
Ala Glu Ser Gly Arg Gln Arg Leu Leu Val Gln Lys Arg Gly Ala Leu  
35 40 45  
Arg Arg Lys Phe Gly Phe Ser Ala Glu Asp Tyr Arg Glu Leu Glu Arg  
50 55 60  
Leu Ala Leu Gln Ala Glu Pro His Arg Ala Gly Arg Gln Trp Lys Phe  
65 70 75 80  
Pro Gly Ser Phe Tyr Phe Ala Ile Thr Val Ile Thr Thr Ile Glu Tyr  
85 90 95  
Gly His Ala Ala Pro Gly Thr Asp Ser Gly Lys Val Phe Cys Met Phe  
100 105 110  
Tyr Ala Leu Leu Gly Ile Pro Leu Thr Leu Val Thr Phe Gln Ser Leu  
115 120 125  
Gly Glu Arg Leu Asn Ala Val Val Arg Arg Leu Leu Leu Ala Ala Lys  
130 135 140  
Cys Cys Leu Gly Leu Arg Trp Thr Cys Val Ser Thr Glu Asn Leu Val  
145 150 155 160  
Val Ala Gly Leu Leu Ala Cys Ala Ala Thr Leu Ala Leu Gly Ala Val  
165 170 175  
Ala Phe Ser His Phe Glu Gly Trp Thr Phe Phe His Ala Tyr Tyr Tyr  
180 185 190  
Cys Phe Ile Thr Leu Thr Thr Ile Gly Phe Gly Asp Phe Val Ala Leu  
195 200 205  
Gln Ser Gly Glu Ala Leu Gln Arg Lys Leu Pro Tyr Val Ala Phe Ser  
210 215 220  
Phe Leu Tyr Ile Leu Leu Gly Leu Thr Val Ile Gly Ala Phe Leu Asn  
225 230 235 240  
Leu Val Val Leu Arg Phe Leu Val Ala Ser Ala Asp Trp Pro Glu Arg  
245 250 255  
Ala Ala

<210> 44  
<211> 342  
<212> PRT  
<213> Homo sapiens

<400> 44  
Pro Pro Ala Pro Ala Pro Thr Pro Thr Pro Arg Leu Ser Ile Ser Ser  
1 5 10 15

Arg Ala Thr Val Val Ala Arg Met Glu Gly Thr Ser Gln Gly Gly Leu  
20 25 30

Gln Thr Val Met Lys Trp Lys Thr Val Val Ala Ile Phe Val Val Val  
35 40 45

Val Val Tyr Leu Val Thr Gly Gly Leu Val Phe Arg Ala Leu Glu Gln  
50 55 60

Pro Phe Glu Ser Ser Gln Lys Asn Thr Ile Ala Leu Glu Lys Ala Glu  
65 70 75 80

Phe Leu Arg Asp His Val Cys Val Ser Pro Gln Glu Leu Glu Thr Leu  
85 90 95

Ile Gln His Ala Leu Asp Ala Asp Asn Ala Gly Val Ser Pro Ile Gly  
100 105 110

Asn Ser Ser Asn Asn Ser Ser His Trp Asp Leu Gly Ser Ala Phe Phe  
115 120 125

Phe Ala Gly Thr Val Ile Thr Thr Ile Gly Tyr Gly Asn Ile Ala Pro  
130 135 140

Ser Thr Glu Gly Gly Lys Ile Phe Cys Ile Leu Tyr Ala Ile Phe Gly  
145 150 155 160

Ile Pro Leu Phe Gly Phe Leu Leu Ala Gly Ile Gly Asp Gln Leu Gly  
165 170 175

Thr Ile Phe Gly Lys Ser Ile Ala Arg Val Glu Lys Val Phe Arg Lys  
180 185 190

Lys Gln Val Ser Lys Thr Lys Ile Arg Val Ile Ser Thr Ile Leu Phe  
195 200 205

Ile Leu Ala Gly Cys Ile Val Phe Val Thr Ile Pro Ala Val Ile Phe  
210 215 220

Lys Tyr Ile Glu Gly Trp Thr Ala Leu Glu Ser Ile Tyr Phe Val Val  
225 230 235 240

Val Thr Leu Thr Thr Val Gly Phe Gly Asp Phe Val Ala Gly Gly Asn  
245 250 255

Ala Gly Ile Asn Tyr Arg Glu Trp Tyr Lys Pro Leu Val Trp Phe Trp  
260 265 270

Ile Leu Val Gly Leu Ala Tyr Phe Ala Ala Val Leu Ser Met Ile Gly  
275 280 285

Asp Trp Leu Arg Val Leu Ser Lys Lys Thr Lys Glu Glu Val Gly Glu  
290 295 300

Ile Lys Ala His Ala Ala Glu Trp Lys Ala Asn Val Thr Ala Glu Phe  
305 310 315 320

Arg Glu Thr Arg Arg Arg Leu Ser Val Glu Ile His Asp Lys Leu Gln  
325 330 335

Arg Ala Ala Thr Ile Arg  
340

<210> 45  
<211> 392  
<212> PRT  
<213> Homo sapiens

<400> 45  
Ser Phe Met Tyr Gly Glu Leu Thr Asp Lys Lys Thr Ile Glu Lys Val  
1 5 10 15

Arg Gln Thr Phe Asp Asn Tyr Glu Ser Asn Cys Phe Glu Val Leu Leu  
20 25 30

Tyr Lys Lys Asn Arg Thr Pro Val Trp Phe Tyr Met Gln Ile Ala Pro  
35 40 45

Ile Arg Asn Glu His Glu Lys Val Val Leu Phe Leu Cys Thr Phe Lys  
50 55 60

Asp Ile Thr Leu Phe Lys Gln Pro Ile Glu Asp Asp Ser Thr Lys Gly  
65 70 75 80

Gly Trp Thr Lys Phe Ala Arg Leu Thr Arg Ala Leu Thr Asn Ser Arg  
85 90 95

Ser Val Leu Gln Gln Leu Thr Pro Met Asn Lys Thr Glu Val Val His  
100 105 110

Lys His Ser Arg Leu Ala Glu Val Leu Gln Leu Gly Ser Asp Ile Leu  
115 120 125

Pro Gln Tyr Lys Gln Glu Ala Pro Lys Thr Pro Pro His Ile Ile Leu  
130 135 140

His Tyr Cys Ala Phe Lys Thr Thr Trp Asp Trp Val Ile Leu Ile Leu  
145 150 155 160

Thr Phe Tyr Thr Ala Ile Met Val Pro Tyr Asn Val Ser Phe Lys Thr  
165 170 175

Lys Gln Asn Asn Ile Ala Trp Leu Val Leu Asp Ser Val Val Asp Val

180

185

190

Ile Phe Leu Val Asp Ile Val Leu Asn Phe His Thr Thr Phe Val Gly  
195 200 205

Pro Gly Gly Glu Val Ile Ser Asp Pro Lys Leu Ile Arg Met Asn Tyr  
210 215 220

Leu Lys Thr Trp Phe Val Ile Asp Leu Leu Ser Cys Leu Pro Tyr Asp  
225 230 235 240

Ile Ile Asn Ala Phe Glu Asn Val Asp Glu Gly Ile Ser Ser Leu Phe  
245 250 255

Ser Ser Leu Lys Val Val Arg Leu Leu Arg Leu Gly Arg Val Ala Arg  
260 265 270

Lys Leu Asp His Tyr Leu Glu Tyr Gly Ala Ala Val Leu Val Leu Leu  
275 280 285

Val Cys Val Phe Gly Leu Val Ala His Trp Leu Ala Cys Ile Trp Tyr  
290 295 300

Ser Ile Gly Asp Tyr Glu Val Ile Asp Glu Val Thr Asn Thr Ile Gln  
305 310 315 320

Ile Asp Ser Trp Leu Tyr Gln Leu Ala Leu Ser Ile Gly Thr Pro Tyr  
325 330 335

Arg Tyr Asn Thr Ser Ala Gly Ile Trp Glu Gly Gly Pro Ser Lys Asp  
340 345 350

Ser Leu Tyr Val Ser Ser Leu Tyr Phe Thr Met Thr Ser Leu Thr Thr  
355 360 365

Ile Gly Phe Gly Asn Ile Ala Pro Thr Thr Asp Val Glu Lys Met Phe  
370 375 380

Ser Val Ala Met Met Met Val Gly  
385 390

<210> 46  
<211> 280  
<212> PRT  
<213> Homo sapiens

<400> 46  
Met Cys Asn Thr Pro Thr Tyr Cys Asp Leu Gly Lys Ala Ala Glu Asp  
1 5 10 15

Val Phe Asn Lys Gly Tyr Gly Phe Gly Met Gly Lys Ile Asp Leu Lys  
20 25 30

Thr Lys Ser Cys Ser Ala Val Glu Phe Ser Thr Ser Gly His Ala Tyr  
35 40 45

Thr Asp Thr Gly Lys Ala Ser Gly Asn Leu Glu Pro Glu Cys Lys Val  
 50 55 60

Cys Asn Tyr Gly Leu Thr Phe Thr Gln Lys Arg Asn Thr Asp Asn Thr  
 65 70 75 80

Leu Gly Thr Glu Ile Ser Leu Glu Asn Lys Leu Ala Lys Gly Leu Lys  
 85 90 95

Leu Ser Leu Asp Thr Ile Leu Val Pro Asn Thr Gly Lys Lys Ser Gly  
 100 105 110

Glu Leu Lys Ala Ser Tyr Lys Trp Asp Cys Phe Ser Val Gly Ser Asn  
 115 120 125

Val Asp Leu Asp Phe Ser Gly Pro Thr Ile Tyr Gly Trp Ala Val Leu  
 130 135 140

Val Phe Glu Gly Trp Leu Ala Gly Tyr Gln Met Ser Phe Asp Thr Ala  
 145 150 155 160

Lys Ser Lys Leu Ser Gln Asn Asn Phe Ala Leu Gly Tyr Glu Ala Ala  
 165 170 175

Asp Phe Gln Leu His Thr His Val Thr Asp Gly Thr Glu Phe Gly Gly  
 180 185 190

Ser Ile Tyr Gln Lys Val Asn Gly Ile Glu Met Ser Ile Asn Leu Ala  
 195 200 205

Trp Thr Ala Gly Asn Asn Thr His Phe Gly Ile Ala Thr Lys Tyr Lys  
 210 215 220 240

Leu Asp Cys Arg Thr Ser Leu Ser Ala Lys Val Asn Asn Ala Ser Leu  
 225 230 235 240

Ile Gly Leu Gly Tyr Thr Gln Thr Leu Arg Pro Gly Val Lys Leu Thr  
 245 250 255

Leu Ala Leu Ile Asp Gly Asn Asn Phe Ser Ala Gly Gly His Lys Val  
 260 265 270

Gly Leu Ala Phe Glu Leu Gln Ala  
 275 280

<210> 47  
 <211> 263  
 <212> PRT  
 <213> Homo sapiens

<400> 47  
 Pro Leu Leu Leu Ala Tyr Val Cys Tyr Leu Leu Leu Gly Ala Thr Ile  
 1 5 10 15

Phe Gln Leu Leu Glu Arg Gln Ala Glu Ala Gln Ser Arg Asp Gln Phe  
 20 25 30

Gln Leu Glu Lys Leu Arg Phe Leu Glu Asn Tyr Thr Cys Leu Asp Gln  
     35                        40                        45  
  
 Trp Ala Met Glu Gln Phe Val Gln Val Ile Met Glu Ala Trp Val Lys  
     50                        55                        60  
  
 Gly Val Asn Pro Lys Gly Asn Ser Thr Asn Pro Ser Asn Trp Asp Phe  
     65                        70                        75                        80  
  
 Gly Ser Ser Phe Phe Ala Gly Thr Val Val Thr Thr Ile Gly Tyr  
     85                        90                        95  
  
 Gly Asn Leu Ala Pro Ser Thr Glu Ala Gly Gln Val Phe Cys Val Phe  
     100                       105                       110  
  
 Tyr Ala Leu Leu Gly Ile Pro Leu Asn Val Ile Phe Leu Asn His Leu  
     115                       120                       125  
  
 Gly Thr Gly Leu Arg Ala His Leu Ala Ala Ile Glu Arg Trp Glu Asp  
     130                       135                       140  
  
 Arg Pro Arg Arg Ser Gln Val Leu Gln Val Leu Gly Leu Ala Leu Phe  
     145                       150                       155                        160  
  
 Leu Thr Leu Gly Thr Leu Val Ile Leu Ile Phe Pro Pro Met Val Phe  
     165                       170                       175  
  
 Ser His Val Glu Gly Trp Ser Phe Ser Glu Gly Phe Tyr Phe Ala Phe  
     180                       185                       190  
  
 Ile Thr Leu Ser Thr Ile Gly Phe Gly Asp Tyr Val Val Gly Met Asn  
     195                       200                       205  
  
 Pro Ser Gln Arg Tyr Pro Leu Trp Tyr Lys Asn Met Val Ser Leu Trp  
     210                       215                       220  
  
 Ile Leu Phe Gly Met Ala Trp Leu Ala Leu Ile Ile Lys Leu Ile Leu  
     225                       230                       235                        240  
  
 Ser Gln Leu Glu Thr Pro Gly Arg Val Cys Ser Cys Cys His His Ser  
     245                       250                       255  
  
 Ser Lys Glu Asp Phe Lys Ser  
     260

<210> 48  
 <211> 115  
 <212> PRT  
 <213> Homo sapiens

<400> 48  
 Phe Ser Glu Ile Phe Phe Val Ser Ile Cys Thr Ser Glu Leu Ser Met  
     1                       5                           10                       15

Lys Val Tyr Val Asp Pro Ile Asn Tyr Trp Lys Asn Gly Tyr Asn Leu

20

25

30

Leu Asp Val Ile Ile Ile Val Met Phe Leu Pro Tyr Ala Leu Arg  
35 40 45

Gln Leu Met Gly Lys Gln Phe Thr Tyr Leu Tyr Ile Ala Asp Gly Met  
50 55 60

Gln Ser Leu Arg Ile Leu Lys Leu Ile Gly Tyr Ser Gln Gly Ile Arg  
65 70 75 80

Thr Leu Ile Thr Ala Val Gly Gln Thr Val Tyr Thr Val Ala Ser Val  
85 90 95

Leu Leu Leu Phe Leu Leu Met Tyr Ile Phe Ala Ile Leu Gly Phe  
100 105 110

Cys Leu Phe  
115

<210> 49

<211> 98

<212> PRT

<213> Homo sapiens

<400> 49

Met Ser Asp Pro Ile Thr Leu Asn Val Gly Gly Lys Leu Tyr Thr Thr  
1 5 10 15

Ser Leu Ala Thr Leu Thr Ser Phe Pro Asp Ser Met Leu Gly Ala Met  
20 25 30

Phe Ser Gly Lys Met Pro Thr Lys Arg Asp Ser Gln Gly Asn Cys Phe  
35 40 45

Ile Asp Arg Asp Gly Lys Val Phe Arg Tyr Ile Leu Asn Phe Leu Arg  
50 55 60

Thr Ser His Leu Asp Leu Pro Glu Asp Phe Gln Glu Met Gly Leu Leu  
65 70 75 80

Arg Arg Glu Ala Asp Phe Tyr Gln Val Gln Pro Leu Ile Glu Ala Leu  
85 90 95

Gln Glu

<210> 50

<211> 289

<212> PRT

<213> Homo sapiens

<400> 50

Arg Val Ala Leu Ala Lys Glu Glu Val Lys Ser Gly Thr Lys Gly Ser  
1 5 10 15

Gln Pro Met Ser Pro Ser Asp Phe Leu Asp Lys Leu Met Gly Arg Thr  
20 25 30

Ser Gly Tyr Asp Ala Arg Ile Arg Pro Asn Phe Lys Gly Pro Pro Val  
35 40 45

Asn Val Thr Cys Asn Ile Phe Ile Asn Ser Phe Ser Ser Ile Thr Lys  
50 55 60

Thr Thr Met Asp Tyr Arg Val Asn Val Phe Leu Arg Gln Gln Trp Asn  
65 70 75 80

Asp Pro Arg Leu Ser Tyr Arg Glu Tyr Pro Asp Asp Ser Leu Asp Leu  
85 90 95

Asp Pro Ser Met Leu Asp Ser Ile Trp Lys Pro Asp Leu Phe Phe Ala  
100 105 110

Asn Glu Lys Gly Ala Asn Phe His Glu Val Thr Thr Asp Asn Lys Leu  
115 120 125

Leu Arg Ile Phe Lys Asn Gly Asn Val Leu Tyr Ser Ile Arg Leu Thr  
130 135 140

Leu Ile Leu Ser Cys Leu Met Asp Leu Lys Asn Phe Pro Met Asp Ile  
145 150 155 160

Gln Thr Cys Thr Met Gln Leu Glu Ser Phe Gly Tyr Thr Met Lys Asp  
165 170 175

Leu Val Phe Glu Trp Leu Glu Asp Ala Pro Ala Val Gln Val Ala Glu  
180 185 190

Gly Leu Thr Leu Pro Gln Phe Ile Leu Arg Asp Glu Lys Asp Leu Gly  
195 200 205

Cys Cys Thr Lys His Tyr Asn Thr Gly Lys Phe Thr Cys Ile Glu Val  
210 215 220

Lys Phe His Leu Glu Arg Gln Met Gly Tyr Tyr Leu Ile Gln Met Tyr  
225 230 235 240

Ile Pro Ser Leu Leu Ile Val Ile Leu Ser Trp Val Ser Phe Trp Ile  
245 250 255

Asn Met Asp Ala Ala Pro Ala Arg Val Gly Leu Gly Ile Thr Thr Val  
260 265 270

Leu Thr Met Thr Thr Gln Ser Ser Gly Ser Arg Ala Ser Leu Pro Lys  
275 280 285

Val

<210> 51  
<211> 84  
<212> PRT

<213> Homo sapiens

<400> 51

Lys Thr Val Ser Gln Trp Glu Arg His Ile Leu Val Trp Lys Gly Val  
1 5 10 15

Asp Ile Arg Arg Asp Leu Asp Ser Ala Arg Thr Gln Ala His Cys Pro  
20 25 30

Leu Leu Arg Arg Ala Lys Pro Ser Arg Cys Phe Ser Trp Glu Ser Gln  
35 40 45

Thr Thr Met Val Cys Gln Gln Glu Gly Ser Gln Asp Lys Thr Tyr Glu  
50 55 60

Val Lys Met Asn Asn Asp Thr Glu Ala Cys Ile Glu Pro Ser Leu Leu  
65 70 75 80

Ser Thr Glu Ile

<210> 52

<211> 90

<212> PRT

<213> Homo sapiens

<400> 52

Arg Gln Asp Pro Val Ser Arg Gly Leu Cys Pro His Arg Glu Arg His  
1 5 10 15

Val Leu Val Gln Ala Gly Leu Glu Phe Arg Lys Asp Ser Gly Ser Val  
20 25 30

Gly Thr Pro Ala His Cys Pro Leu Leu Gly Arg Ala Asn Pro Pro Arg  
35 40 45

Cys Phe Ser Gln Glu Ser Gln Ile Ala Met Val Cys Gln Glu Arg Ser  
50 55 60

Gln Asn Glu Thr Tyr Glu Val Lys Met Asn Asn Asp Thr Glu Ala Cys  
65 70 75 80

Ser Glu Pro Ser Leu Leu Ser Thr Glu Met  
85 90

<210> 53

<211> 43

<212> PRT

<213> Homo sapiens

<400> 53

Asn Leu Met Leu Glu Ala Gly Asp Asp Ala Gly Lys Val Lys Trp Val  
1 5 10 15

Asp Ile Asn Asp Lys Leu Lys Leu Tyr Ala Ser His Ser Gln Phe Ile  
20 25 30

Lys Leu Val Ala Glu Lys Arg Asp Ala His Trp  
35 40

<210> 54  
<211> 110  
<212> PRT  
<213> Homo sapiens

<400> 54  
Leu Leu Glu Gly Gly Ala Tyr Ile Asn Glu Ser Asn Asp Arg Gly Glu  
1 5 10 15

Thr Pro Leu Met Ile Ala Cys Lys Thr Lys His Val Asp His Gln Ser  
20 25 30

Val Ser Lys Ala Lys Met Val Lys Tyr Leu Leu Glu Asn Asn Ala Asp  
35 40 45

Pro Asn Ile Gln Asp Lys Ser Gly Lys Thr Ala Leu Met His Ala Cys  
50 55 60

Leu Glu Lys Ala Gly Pro Glu Val Val Ser Leu Leu Leu Lys Ser Gly  
65 70 75 80

Ala Asp Leu Ser Leu Gln Asp His Ser Ser Tyr Ser Ala Leu Val Tyr  
85 90 95

Ala Ile Asn Ser Glu Asp Thr Glu Thr Leu Lys Val Leu Leu  
100 105 110

<210> 55  
<211> 572  
<212> DNA  
<213> Homo sapiens

<220>  
<221> modified\_base  
<222> (394)  
<223> a, c, t, g, other or unknown

<220>  
<221> modified\_base  
<222> (397)  
<223> a, c, t, g, other or unknown

<220>  
<221> modified\_base  
<222> (469)  
<223> a, c, t, g, other or unknown

<220>  
<221> modified\_base  
<222> (526)  
<223> a, c, t, g, other or unknown

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<220>
<221> modified_base
<222> (547)
<223> a, c, t, g, other or unknown

<400> 55
ggatggctgt gtgtctgctc tttgtgttcg ctgccttgct ggagtatgct gccataaatt 60
ttgtttctcg tcagcataaaa gaattcatac gacttcgaag aaggcagagg cgccaaacgct 120
tggaggaaga tatcatccaa gaaagtcgtt tctatttccg tggctatggc ttgggccact 180
gcctgcaggc aagagatgga ggtccaatgg aaggttctgg catttatagt ccccaacctc 240
cagccccctct tctaagggaa ggagaaaacca cgccggaaact ctacgtggac tgagccaaga 300
gaattgacac catctcccg gctgtcttcc ctttcaactt cctcatcttca aatatcttct 360
actggggtgt ctataaagtg ctatggtcag aagntancca ccaggctctg tgaataggg 420
gggagctata gagtcctgct gctggcctcc tgcttcctcc tgggtgggn ttcctccctca 480
tttagactcc attaggggtt tggacagttc cttcctgatc tcccantcag aacttcatct 540
accagtncca aagctatgtg ggccttatatt gc 572

<210> 56
<211> 1798
<212> DNA
<213> Homo sapiens

<400> 56
gcagagagaa agttacgagg ttcgtggccg cggtttcccc aggcaagctgg cgctggaggc 60
ttcggcgtca cgtgctggtc tggatttttc tcgatgcact ggggaaagcg gtggactctt 120
atcggtggag ggctcttgcat ctgtgattta tagataggca cagggaaaccc aacggcagac 180
aggtcctagt gccccatcaga taccgcggc cgggactcgg agctgtgggg tggggggagg 240
cgaggaggcacc aactaagagc gacctagcat cgccaaacccg ccctcggggc gctcatggcg 300
ggacgcctcc tgggaaagc tttagccgcg gtgtctctt ctctggcctt ggcctctgt 360
actatcaggc cctcgcgcgtc ccgcggcato caggcgttca gaaactcggtt ttcatcttct 420
tggtttcatc ttaataccaa cgtcatgtct gtttctaatg gtcccaaaga aaattctcac 480
aataaggctc ggacgtctcc ttacccaggc tcaaaagttt aacgaagcca gtttcttaat 540
gagaaaagtgg gctggctgt tgagtggcaa gactataagc ctgtggaaata cactgcagtc 600
tctgtcttgg ctggaccaggc gtgggcagat cctcagatca gtgaaagttt tttttctccc 660
aagtttaacg aaaaggatgg gcatgttgag agaaagagc agaatggcc gtatgagatt 720
gaaaaatggaa gaccggaaaa tcctgcaggg cggactggac tggggggccg ggggctttg 780
ggggcgtgg gcccaaatac cgcgtcagat cccattataa ccagatggaa aaggatagc 840
agtggaaata aaatcatgca tcctgtttct gggaaagcata tcctacaatt ttttgcataa 900
aaaaggaaag actgtggaga atggcaatc ccagggggga tggggatcc aggagagaag 960
attagtgcac cactgaaaag agaattttgtt gaggaaagtc tcaactcctt acagaaaacc 1020
agtgcgtgaga agagagaaaat agaggaaaag ttgcacaaac tcctcagcca agaccaccta 1080
gtgatataata agggatatgt tgatgatcct cggaaacactg ataatgcattt gatggagaca 1140
gaagctgtga actaccatga cggaaacaggc gagataatgg ataatctt gcttagaagct 1200
ggagatgtatg ctggaaaagt gaaatgggtt gacatcaatg ataaactgaa gctttatgcc 1260
agtcaactctc aattcatcaa acttgtggct gggaaacggc atgcacactg gagcgaggac 1320
tctgaagctg actgcattgc gttgttagctg atggctccg tggtaagccaa aggcccacag 1380
aggagcatat actgaaaaga aggcaatc acagaattt tactataaaa agggcagggt 1440
aggccacttg gccttattac ttcaaaaaca atttgcattt agagtgtttc gcatcagaat 1500
aacatgagta agatgaactg gaacacaaaa ttgcgttc tttggtcaaa aggaatataa 1560
gtaatcatat ttgtatgtt ttcgatattaa gcatggctt aattaaattt aaacaactaa 1620
tgctcttgc agaatcataa tcagaataaa gataaattct tgatcagcta taacttctgt 1680
ttcatctagt tcttgggtt caatgccttc cctccgcctc cccatcttctt gaggcctgaa 1740
ggatgttccctt gccacatcaa actcctttag gcagagtttacc gccatggagt atagttt 1798

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<210> 57  
<211> 101  
<212> PRT  
<213> Homo sapiens

<400> 57  
Met Met Thr Asp Pro Val Thr Leu Asn Val Gly Gly His Leu Tyr Thr  
1 5 10 15  
  
Thr Ser Leu Thr Thr Leu Thr Arg Tyr Pro Asp Ser Met Leu Gly Ala  
20 25 30  
  
Met Phe Gly Gly Asp Phe Pro Thr Ala Arg Asp Pro Gln Gly Asn Tyr  
35 40 45  
  
Phe Ile Asp Arg Asp Gly Pro Leu Phe Arg Tyr Val Leu Asn Phe Leu  
50 55 60  
  
Arg Thr Ser Glu Leu Thr Leu Pro Leu Asp Phe Lys Glu Phe Asp Leu  
65 70 75 80  
  
Leu Arg Lys Glu Ala Asp Phe Tyr Gln Ile Glu Pro Leu Ile Gln Cys  
85 90 95  
  
Leu Asn Asp Pro Lys  
100

<210> 58  
<211> 103  
<212> PRT  
<213> Homo sapiens

<400> 58  
Tyr Met Met Thr Asp Pro Val Thr Leu Asn Val Gly Gly His Leu Tyr  
1 5 10 15  
  
Thr Thr Ser Leu Thr Thr Leu Thr Arg Tyr Pro Asp Ser Met Leu Gly  
20 25 30  
  
Ala Met Phe Gly Gly Asp Phe Pro Thr Ala Arg Asp Pro Gln Gly Asn  
35 40 45  
  
Tyr Phe Ile Asp Arg Asp Gly Pro Leu Phe Tyr Val Leu Asn Phe Leu  
50 55 60  
  
Arg Thr Ser Glu Leu Thr Leu Pro Leu Asp Phe Lys Glu Phe Asp Leu  
65 70 75 80  
  
Leu Arg Lys Glu Ala Asp Phe Tyr Gln Ile Glu Pro Leu Ile Gln Cys  
85 90 95  
  
Leu Asn Asp Pro Lys Pro Leu  
100

<210> 59

<211> 50  
<212> PRT  
<213> Homo sapiens

<400> 59  
Gly Asn Cys Arg Val Ala Asn Ala Glu Glu Lys Leu Met Asp Asp Leu  
1 5 10 15

Leu Asn Lys Thr Arg Tyr Asn Asn Leu Ile Arg Pro Ala Thr Ser Ser  
20 25 30

Ser Gln Leu Ile Ser Ile Lys Leu Gln Leu Ser Leu Ala Gln Leu Ile  
35 40 45

Ser Val  
50

<210> 60  
<211> 92  
<212> PRT  
<213> Homo sapiens

<400> 60  
Val Thr Leu Asn Val Gly Gly His Leu Tyr Thr Thr Ser Leu Thr Thr  
1 5 10 15

Leu Thr Arg Tyr Pro Asp Ser Met Leu Gly Ala Met Phe Gly Gly Asp  
20 25 30

Phe Pro Thr Ala Arg Asp Pro Gln Gly Asn Tyr Phe Ile Asp Arg Asp  
35 40 45

Gly Pro Leu Phe Arg Tyr Val Leu Asn Phe Leu Arg Thr Ser Glu Leu  
50 55 60

Thr Leu Pro Leu Asp Phe Lys Glu Phe Asp Leu Leu Arg Lys Glu Ala  
65 70 75 80

Asp Phe Tyr Gln Ile Glu Pro Leu Ile Gln Cys Leu  
85 90

<210> 61  
<211> 502  
<212> PRT  
<213> Homo sapiens

<400> 61  
Pro Ala Gly Val Thr Pro Pro Pro Pro Arg Pro Gly Arg Thr Phe  
1 5 10 15

His Ala Ile Phe Thr Arg Arg His Arg Thr Pro Asp Trp Gly Gly Cys  
20 25 30

Gly Val Gly Ala Thr Arg Pro Phe Thr Gly Arg Pro Gly Cys Ala Arg  
35 40 45

His Gly Ala Thr Val Pro Ala Ala Leu Arg Cys Cys Glu Arg Leu Val  
50 55 60

Leu Asn Val Ala Gly Leu Arg Phe Glu Thr Arg Ala Arg Thr Leu Gly  
65 70 75 80

Arg Phe Pro Asp Thr Leu Leu Gly Asp Pro Val Arg Arg Ser Arg Phe  
85 90 95

Tyr Asp Gly Ala Arg Ala Glu Tyr Phe Phe Asp Arg His Arg Pro Ser  
100 105 110

Phe Asp Ala Val Leu Tyr Tyr Gln Ser Gly Gly Arg Leu Arg Arg  
115 120 125

Pro Ala His Val Pro Leu Asp Val Phe Leu Glu Glu Val Ser Phe Tyr  
130 135 140

Gly Leu Gly Arg Arg Leu Ala Arg Leu Arg Glu Asp Glu Gly Cys Ala  
145 150 155 160

Val Ala Glu Arg Pro Leu Pro Pro Phe Ala Arg Gln Leu Trp Leu  
165 170 175

Leu Phe Glu Phe Pro Glu Ser Ser Gln Ala Ala Arg Val Leu Ala Val  
180 185 190

Val Ser Val Leu Val Ile Leu Val Ser Ile Val Val Phe Cys Leu Glu  
195 200 205

Thr Leu Pro Asp Phe Arg Asp Asp Arg Asp Asp Pro Gly Leu Ala Pro  
210 215 220

Val Ala Ala Ala Thr Gly Ser Phe Leu Ala Arg Leu Asn Gly Ser Ser  
225 230 235 240

Pro Met Pro Gly Ala Pro Pro Arg Gln Pro Phe Asn Asp Pro Phe Phe  
245 250 255

Val Val Glu Thr Leu Cys Ile Cys Trp Phe Ser Phe Glu Leu Leu Val  
260 265 270

His Leu Val Ala Cys Pro Ser Lys Ala Val Phe Phe Lys Asn Val Met  
275 280 285

Asn Leu Ile Asp Phe Val Ala Ile Leu Pro Tyr Phe Val Ala Leu Gly  
290 295 300

Thr Glu Leu Ala Arg Gln Arg Gly Val Gly Gln Pro Ala Met Ser Leu  
305 310 315 320

Ala Ile Leu Arg Val Ile Arg Leu Val Arg Val Phe Arg Ile Phe Lys  
325 330 335

Leu Ser Arg His Ser Lys Gly Leu Gln Ile Leu Gly Gln Thr Leu Arg  
340 345 350

Ala Ser Met Arg Glu Leu Gly Leu Leu Ile Phe Phe Leu Phe Ile Gly  
355 360 365

Val Val Leu Phe Ser Ser Ala Val Tyr Phe Ala Glu Val Asp Arg Val  
370 375 380

Asp Thr His Phe Thr Ser Ile Pro Glu Ser Phe Trp Trp Ala Val Val  
385 390 395 400

Thr Met Thr Thr Val Gly Tyr Gly Asp Met Ala Pro Val Thr Val Gly  
405 410 415

Gly Lys Ile Val Gly Ser Leu Cys Ala Ile Ala Gly Val Leu Thr Ile  
420 425 430

Ser Leu Pro Val Pro Val Ile Val Ser Asn Phe Ser Tyr Phe Tyr His  
435 440 445

Arg Glu Thr Glu Gly Glu Ala Gly Met Tyr Ser His Val Asp Thr  
450 455 460

Gln Pro Cys Gly Thr Leu Glu Gly Lys Ala Asn Gly Gly Leu Val Asp  
465 470 475 480

Ser Glu Val Pro Glu Leu Leu Pro Pro Leu Trp Pro Pro Ala Gly Lys  
485 490 495

His Met Val Thr Glu Val  
500

<210> 62  
<211> 250  
<212> PRT  
<213> Homo sapiens

<220>  
<221> MOD\_RES  
<222> (51)..(63)  
<223> Any amino acid

<220>  
<221> MOD\_RES  
<222> (169)..(179)  
<223> Any amino acid

<400> 62  
Tyr Leu Val Ala Gly Ala Thr Val Phe Ser Ala Leu Glu Ser Pro Gly  
1 5 10 15

Glu Ala Glu Ala Arg Ala Arg Trp Gly Ala Thr Leu Arg Asn Phe Ser  
20 25 30

Ala Ala His Gly Val Ala Glu Pro Glu Leu Arg Ala Phe Leu Arg His  
35 40 45

Tyr Glu Xaa Pro  
       50                  55                  60

Arg Trp Asp Phe Pro Gly Ala Phe Tyr Phe Val Gly Thr Val Val Ser  
       65                  70                  75                  80

Thr Ile Gly Phe Gly Met Thr Thr Pro Ala Thr Val Gly Gly Lys Ala  
       85                  90                  95

Phe Leu Ile Ala Tyr Gly Leu Phe Gly Cys Ala Gly Thr Ile Leu Phe  
       100                105                110

Phe Asn Leu Phe Leu Glu Arg Ile Ile Ser Leu Leu Ala Phe Ile Met  
       115                120                125

Arg Ala Cys Arg Glu Arg Gln Leu Arg Arg Ser Gly Leu Leu Pro Ala  
       130                135                140

Thr Phe Arg Arg Gly Ser Ala Leu Ser Glu Ala Asp Ser Leu Ala Gly  
       145                150                155                160

Trp Lys Pro Ser Val Tyr His Val Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa  
       165                170                175

Xaa Xaa Xaa Ser Cys Cys Ala Ser Ala Met Tyr Thr Ser Val Glu Gly  
       180                185                190

Trp Asp Tyr Val Asp Ser Leu Tyr Phe Cys Phe Val Thr Phe Ser Thr  
       195                200                205

Ile Gly Phe Gly Asp Leu Val Ser Ser Gln His Ala Ala Tyr Arg Asn  
       210                215                220

Gln Gly Leu Tyr Arg Leu Gly Asn Phe Leu Phe Ile Leu Leu Gly Val  
       225                230                235                240

Cys Cys Ile Tyr Ser Leu Phe Asn Val Ile  
       245                250

<210> 63  
 <211> 225  
 <212> PRT  
 <213> Homo sapiens

<400> 63  
 Tyr Leu Leu Val Gly Ala Ala Val Phe Asp Ala Leu Glu Ser Glu Pro  
       1                  5                  10                  15

Glu Leu Ile Glu Arg Gln Arg Leu Glu Leu Arg Gln Gln Glu Leu Arg  
       20                25                  30

Ala Arg Tyr Asn Leu Ser Gln Gly Gly Tyr Glu Glu Leu Glu Arg Val  
       35                40                  45

Val Leu Arg Leu Lys Pro His Lys Ala Gly Val Gln Trp Arg Phe Ala  
       50                55                  60

Gly Ser Phe Tyr Phe Ala Ile Thr Val Ile Thr Thr Ile Gly Tyr Gly  
65 70 75 80

His Ala Ala Pro Ser Thr Asp Gly Gly Lys Val Phe Cys Met Phe Tyr  
85 90 95

Ala Leu Leu Gly Ile Pro Leu Thr Leu Val Met Phe Gln Ser Leu Gly  
100 105 110

Glu Arg Ile Asn Thr Leu Val Arg Tyr Leu Leu His Arg Ala Lys Lys  
115 120 125

Gly Leu Gly Met Arg Arg Ala Asp Val Ser Met Ala Asn Met Val Leu  
130 135 140

Ile Gly Phe Phe Ser Cys Ile Ser Thr Leu Cys Ile Gly Ala Ala Ala  
145 150 155 160

Phe Ser His Tyr Glu His Trp Thr Phe Phe Gln Ala Tyr Tyr Tyr Cys  
165 170 175

Phe Ile Thr Leu Thr Thr Ile Gly Phe Gly Asp Tyr Val Ala Leu Gln  
180 185 190

Lys Asp Gln Ala Leu Gln Thr Gln Pro Gln Tyr Val Ala Phe Ser Phe  
195 200 205

Val Tyr Ile Leu Thr Gly Leu Thr Val Ile Gly Ala Phe Leu Asn Leu  
210 215 220

Val  
225

<210> 64  
<211> 234  
<212> DNA  
<213> Homo sapiens

<400> 64  
ggcgagcaga agctgatgga cgaccttctg aacaaaaacc gttaccacaa cctgatccgc 60  
ccagccgcca gctcctcaca gtcatctcc atcgagatgg agctctccct ggcccagtgc 120  
atcatgtgtga acacacaaaag acccaacttt tgcccaaaac tggctctttt ggtttggaat 180  
aggctgccat gctttttaa tgatttgca gcatgtatat tcactacagc atta 234

<210> 65  
<211> 78  
<212> PRT  
<213> Homo sapiens

<400> 65  
Ala Glu Gln Lys Leu Met Asp Asp Leu Leu Asn Lys Thr Arg Tyr His  
1 5 10 15

Asn Leu Ile Arg Pro Ala Ala Ser Ser Ser Gln Leu Ile Ser Ile Glu

20

25

30

Met Glu Leu Ser Leu Ala Gln Cys Ile Ser Val Asn Thr Gln Arg Pro  
35 40 45

Thr Leu Cys Pro Lys Leu Phe Ser Leu Val Trp Asn Arg Leu Pro Cys  
50 55 60

Phe Phe Asn Val Ile Ala Ala Cys Ile Phe Thr Thr Ala Leu  
65 70 75

<210> 66

<211> 80

<212> PRT

<213> Homo sapiens

<400> 66

Ala Glu Glu Lys Leu Met Asp Asp Leu Leu Asn Lys Thr Arg Tyr Asn  
1 5 10 15

Asn Leu Ile Arg Pro Ala Thr Ser Ser Gln Leu Ile Ser Ile Lys  
20 25 30

Leu Gln Leu Ser Leu Ala Gln Leu Ile Ser Val Asn Pro Gln Asp Pro  
35 40 45

Ser Tyr Val Asp Val Thr Tyr Asp Phe Ile Ile Lys Arg Lys Pro Leu  
50 55 60

Phe Tyr Thr Ile Asn Leu Ile Ile Pro Cys Val Leu Thr Thr Leu Leu  
65 70 75 80

<210> 67

<211> 86

<212> PRT

<213> Rattus sp.

<400> 67

Met Glu Ala Leu Thr Leu Trp Leu Leu Pro Trp Ile Cys Gln Cys Val  
1 5 10 15

Thr Val Arg Ala Asp Ser Ile Ile His Ile Ala Ile Phe Glu Glu Asn  
20 25 30

Ala Ala Lys Asp Asp Arg Val Phe Gln Leu Ala Val Ser Asp Leu Ser  
35 40 45

Leu Asn Asp Asp Ile Leu Gln Ser Glu Lys Ile Thr Tyr Ser Ile Lys  
50 55 60

Val Ile Glu Ala Asn Asn Pro Phe Gln Ala Val Gln Glu Ala Cys Asp  
65 70 75 80

Leu Met Thr Gln Gly Ile  
85

<210> 68  
<211> 256  
<212> PRT  
<213> Homo sapiens

<220>  
<221> MOD\_RES  
<222> (15)  
<223> Any amino acid

<400> 68  
Met Ser Arg Pro Leu Ile Thr Arg Ser Pro Ala Ser Pro Leu Xaa Asn  
1 5 10 15

Gln Gly Ile Pro Thr Pro Ala Gln Leu Thr Lys Ser Asn Ala Pro Val  
20 25 30

His Ile Asp Val Gly Gly His Met Tyr Thr Ser Ser Leu Ala Thr Leu  
35 40 45

Thr Lys Tyr Pro Glu Ser Arg Ile Gly Arg Leu Phe Asp Gly Thr Glu  
50 55 60

Pro Ile Val Leu Asp Ser Leu Lys Gln His Tyr Phe Ile Asp Arg Asp  
65 70 75 80

Gly Gln Met Phe Arg Tyr Ile Leu Asn Phe Leu Arg Thr Ser Lys Leu  
85 90 95

Leu Ile Pro Asp Asp Phe Lys Asp Tyr Thr Leu Leu Tyr Glu Glu Ala  
100 105 110

Lys Tyr Phe Gln Leu Gln Pro Met Leu Leu Glu Met Glu Arg Trp Lys  
115 120 125

Gln Asp Arg Glu Thr Gly Arg Phe Ser Arg Pro Cys Glu Cys Leu Val  
130 135 140

Val Arg Val Ala Pro Asp Leu Gly Glu Arg Ile Thr Leu Ser Gly Asp  
145 150 155 160

Lys Ser Leu Ile Glu Glu Val Phe Pro Glu Ile Gly Asp Val Met Cys  
165 170 175

Asn Ser Val Asn Ala Gly Trp Asn His Asp Ser Thr His Val Ile Arg  
180 185 190

Phe Pro Leu Asn Gly Tyr Cys His Leu Asn Ser Val Gln Val Leu Glu  
195 200 205

Arg Leu Gln Gln Arg Gly Phe Glu Ile Val Gly Ser Cys Gly Gly Gly  
210 215 220

Val Asp Ser Ser Gln Phe Ser Glu Tyr Val Leu Arg Arg Glu Leu Arg  
225 230 235 240

Arg Thr Pro Arg Val Pro Ser Val Ile Arg Ile Lys Gln Glu Pro Leu  
245 250 255

<210> 69  
<211> 50  
<212> PRT  
<213> Homo sapiens

<400> 69  
Gly Asn Cys Arg Val Ala Asn Ala Glu Glu Lys Leu Met Asp Asp Leu  
1 5 10 15

Leu Asn Lys Thr Arg Tyr Asn Asn Leu Ile Arg Pro Ala Thr Ser Ser  
20 25 30

Ser Gln Leu Ile Ser Ile Lys Leu Gln Leu Ser Leu Ala Gln Leu Ile  
35 40 45

Ser Val  
50

<210> 70  
<211> 38  
<212> PRT  
<213> Drosophila melanogaster

<400> 70  
Lys Lys Glu Glu Asn Pro Pro Gly Gly Pro Thr Ser Leu Phe Ile  
1 5 10 15

Leu Thr Glu Asp Asn Pro Ile Arg Lys Tyr Thr Arg Phe Ile Ile Glu  
20 25 30

Trp Pro Pro Phe Glu Tyr  
35

<210> 71  
<211> 46  
<212> PRT  
<213> Xenopus sp.

<400> 71  
Met Asp Asn Lys Gly Phe Arg Arg Ser Ser Leu Ala Ser Phe His Ser  
1 5 10 15

Asn Thr Ser Asp Glu Asp Met Val Glu Ile Thr Glu Ala Thr Leu Asp  
20 25 30

Phe Thr Met Thr Asp Asp Val Pro Pro Ile Asp Arg Asp Met  
35 40 45

<210> 72

<211> 92  
<212> PRT  
<213> Homo sapiens

<400> 72  
Met Ala Pro Leu His His Ile Leu Val Phe Cys Val Gly Leu Leu Thr  
1 5 10 15

Met Ala Lys Ala Glu Ser Pro Lys Glu His Asp Pro Phe Thr Tyr Asp  
20 25 30

Tyr Gln Ser Leu Gln Ile Gly Gly Leu Val Ile Ala Gly Ile Leu Phe  
35 40 45

Ile Leu Gly Ile Leu Ile Val Leu Ser Arg Arg Cys Arg Cys Lys Phe  
50 55 60

Asn Gln Gln Gln Arg Thr Gly Glu Pro Asp Glu Glu Glu Gly Thr Phe  
65 70 75 80

Arg Ser Ser Ile Arg Arg Leu Ser Thr Arg Arg Arg  
85 90

<210> 73  
<211> 141  
<212> PRT  
<213> Homo sapiens

<400> 73  
Val Ser Tyr Val Lys Ala Ile Asp Ile Trp Met Ala Val Cys Leu Leu  
1 5 10 15

Phe Val Phe Ala Ala Leu Leu Glu Tyr Ala Ala Val Asn Phe Val Ser  
20 25 30

Arg Gln His Lys Glu Phe Leu Arg Leu Arg Arg Arg Gln Lys Arg Gln  
35 40 45

Asn Lys Glu Glu Asp Val Thr Arg Glu Ser Arg Phe Asn Phe Ser Gly  
50 55 60

Tyr Gly Met Gly His Cys Leu Gln Val Lys Asp Gly Thr Ala Val Lys  
65 70 75 80

Ala Thr Pro Ala Asn Pro Leu Pro Gln Pro Pro Lys Asp Gly Asp Ala  
85 90 95

Ile Lys Lys Lys Phe Val Asp Arg Ala Lys Arg Ile Asp Thr Ile Ser  
100 105 110

Arg Ala Ala Phe Pro Leu Ala Phe Leu Ile Phe Asn Ile Phe Tyr Trp  
115 120 125

Ile Thr Tyr Lys Ile Ile Arg His Glu Asp Val His Lys  
130 135 140

<210> 74  
<211> 65  
<212> PRT  
<213> Homo sapiens

<400> 74  
Gly Val Leu Val His Leu Val Ile Pro Pro Phe Val Phe Met Val Thr  
1 5 10 15

Glu Gly Trp Asn Tyr Ile Glu Gly Leu Tyr Tyr Ser Phe Ile Thr Ile  
20 25 30

Ser Thr Ile Gly Phe Gly Asp Phe Val Ala Val Asn Pro Ser Ala Asn  
35 40 45

Tyr His Ala Leu Tyr Arg Tyr Phe Val Glu Leu Trp Ile Tyr Leu Gly  
50 55 60

Leu  
65

<210> 75  
<211> 257  
<212> PRT  
<213> Homo sapiens

<400> 75  
Met Lys Arg Gln Asn Val Arg Thr Leu Ala Leu Ile Val Cys Thr Phe  
1 5 10 15

Thr Tyr Leu Leu Val Gly Ala Ala Val Phe Asp Ala Leu Glu Ser Glu  
20 25 30

Pro Glu Leu Ile Glu Arg Gln Arg Leu Glu Leu Arg Gln Gln Glu Leu  
35 40 45

Arg Ala Arg Tyr Asn Leu Ser Gln Gly Gly Tyr Glu Glu Leu Glu Arg  
50 55 60

Val Val Leu Arg Leu Lys Pro His Lys Ala Gly Val Gln Trp Arg Phe  
65 70 75 80

Ala Gly Ser Phe Tyr Phe Ala Ile Thr Val Ile Thr Thr Ile Tyr Gly  
85 90 95

His Ala Ala Pro Ser Thr Asp Gly Gly Lys Val Phe Cys Met Phe Tyr  
100 105 110

Ala Leu Leu Gly Ile Pro Leu Thr Leu Val Met Phe Gln Ser Leu Gly  
115 120 125

Glu Arg Ile Asn Thr Leu Val Arg Tyr Leu Leu His Arg Ala Lys Lys  
130 135 140

Gly Leu Gly Met Arg Arg Ala Asp Val Ser Met Ala Asn Met Val Leu

145	150	155	160
Ile Gly Phe Phe Ser Cys Ile Ser Thr Leu Cys Ile Gly Ala Ala Ala			
165	170	175	
Phe Ser His Tyr Glu His Trp Thr Phe Phe Gln Ala Tyr Tyr Tyr Cys			
180	185	190	
Phe Ile Thr Leu Thr Thr Ile Gly Phe Gly Asp Tyr Val Ala Leu Gln			
195	200	205	
Lys Asp Gln Ala Leu Gln Thr Gln Pro Gln Tyr Val Ala Phe Ser Phe			
210	215	220	
Val Tyr Ile Leu Thr Gly Leu Thr Val Ile Gly Ala Phe Leu Asn Leu			
225	230	235	240
Val Val Leu Arg Phe Met Thr Met Asn Ala Glu Asp Glu Lys Arg Asp			
245	250	255	

Ala

<210> 76			
<211> 338			
<212> PRT			
<213> Homo sapiens			
<400> 76			
Pro Lys Ser Ala Ala Gln Asn Ser Lys Pro Arg Leu Ser Phe Ser Thr			
1	5	10	15
Lys Pro Thr Val Leu Ala Ser Arg Val Glu Ser Asp Thr Thr Ile Asn			
20	25	30	
Val Met Lys Trp Lys Thr Val Ser Thr Ile Phe Leu Val Val Val Leu			
35	40	45	
Tyr Leu Ile Ile Gly Ala Thr Val Phe Lys Ala Leu Glu Gln Pro His			
50	55	60	
Glu Ile Ser Gln Arg Thr Thr Ile Val Ile Gln Lys Gln Thr Phe Ile			
65	70	75	80
Ser Gln His Ser Cys Val Asn Ser Thr Glu Leu Asp Glu Leu Ile Gln			
85	90	95	
Gln Ile Val Ala Ala Ile Asn Ala Gly Ile Ile Pro Leu Gly Asn Thr			
100	105	110	
Ser Asn Gln Ile Ser His Trp Asp Leu Gly Ser Ser Phe Phe Ala			
115	120	125	
Gly Thr Val Ile Thr Thr Ile Phe Gly Asn Ile Ser Pro Arg Thr Glu			
130	135	140	
Gly Gly Lys Ile Phe Cys Ile Ile Tyr Ala Leu Leu Gly Ile Pro Leu			

145	150	155	160
Phe Gly Phe Leu Leu Ala Gly Val Gly Asp Gln Leu Gly Thr Ile Phe			
165	170	175	
Gly Lys Gly Ile Ala Lys Val Glu Asp Thr Phe Ile Lys Trp Asn Val			
180	185	190	
Ser Gln Thr Lys Ile Arg Ile Ile Ser Thr Ile Ile Phe Ile Leu Phe			
195	200	205	
Gly Cys Val Leu Phe Val Ala Leu Pro Ala Ile Ile Phe Lys His Ile			
210	215	220	
Glu Gly Trp Ser Ala Leu Asp Ala Ile Tyr Phe Val Val Ile Thr Leu			
225	230	235	240
Thr Thr Ile Gly Phe Gly Asp Tyr Val Ala Gly Gly Ser Asp Ile Glu			
245	250	255	
Tyr Leu Asp Phe Tyr Lys Pro Val Val Trp Phe Trp Ile Leu Val Gly			
260	265	270	
Leu Ala Tyr Phe Ala Ala Val Leu Ser Met Ile Gly Arg Leu Val Arg			
275	280	285	
Val Ile Ser Lys Lys Thr Lys Glu Glu Val Gly Glu Phe Arg Ala His			
290	295	300	
Ala Ala Glu Trp Thr Ala Asn Val Thr Ala Glu Phe Lys Glu Thr Arg			
305	310	315	320
Arg Arg Leu Ser Val Glu Ile Tyr Asp Lys Phe Gln Arg Ala Thr Ser			
325	330	335	

### Ile Lys

<210> 77  
<211> 393  
<212> PRT  
<213> Rattus norvegicus

<400> 77  
Ser Phe Met Tyr Gly Glu Leu Thr Asp Lys Asp Thr Val Glu Lys Val  
1 5 10 15

Arg Gln Thr Phe Glu Asn Tyr Glu Met Asn Ser Phe Glu Ile Leu Met  
20 25 30

Tyr Lys Lys Asn Thr Pro Val Trp Phe Phe Val Lys Ile Ala Pro Ile  
35 40 45

Arg Asn Glu Gln Asp Lys Val Val Leu Phe Leu Cys Thr Phe Ser Asp  
50 55 60

Ile Thr Ala Phe Lys Gln Pro Ile Glu Asp Asp Ser Cys Lys Gly

65                    70                    75                    80

Trp Gly Lys Phe Ala Arg Leu Thr Arg Ala Leu Thr Ser Ser Arg Gly  
85                    90                    95

Val Leu Gln Gln Leu Ala Pro Ser Val Gln Lys Gly Glu Asn Val His  
100                  105                  110

Lys His Ser Arg Leu Ala Glu Val Leu Gln Leu Gly Ser Asp Ile Leu  
115                  120                  125

Pro Gln Tyr Lys Gln Glu Ala Pro Lys Thr Pro Pro His Ile Ile Leu  
130                  135                  140

His Tyr Cys Val Phe Lys Thr Thr Trp Asp Trp Ile Ile Leu Ile Leu  
145                  150                  155                  160

Thr Phe Tyr Thr Ala Ile Leu Val Pro Tyr Asn Val Ser Phe Lys Thr  
165                  170                  175

Arg Gln Asn Asn Val Ala Trp Leu Val Val Asp Ser Ile Val Asp Val  
180                  185                  190

Ile Phe Leu Val Asp Ile Val Leu Asn Phe His Thr Thr Phe Val Gly  
195                  200                  205

Pro Ala Gly Glu Val Ile Ser Asp Pro Lys Leu Ile Arg Met Asn Tyr  
210                  215                  220

Leu Lys Thr Trp Phe Val Ile Asp Leu Leu Ser Cys Leu Pro Tyr Asp  
225                  230                  235                  240

Val Ile Asn Ala Phe Glu Asn Val Asp Glu Gly Ile Ser Ser Leu Phe  
245                  250                  255

Ser Ser Leu Lys Val Val Arg Leu Leu Arg Leu Gly Arg Val Ala Arg  
260                  265                  270

Lys Leu Asp His Tyr Ile Glu Tyr Gly Ala Ala Val Leu Val Leu Leu  
275                  280                  285

Val Cys Val Phe Gly Leu Ala Ala His Trp Met Ala Cys Ile Trp Tyr  
290                  295                  300

Ser Ile Gly Asp Tyr Glu Ile Phe Asp Glu Asp Thr Lys Thr Ile Arg  
305                  310                  315                  320

Asn Asn Ser Trp Leu Tyr Gln Leu Ala Leu Asp Ile Gly Thr Pro Tyr  
325                  330                  335

Gln Phe Asn Gly Ser Gly Ser Gly Lys Trp Glu Gly Gly Pro Ser Lys  
340                  345                  350

Asn Ser Val Tyr Ile Ser Ser Leu Tyr Phe Thr Met Thr Ser Leu Thr  
355                  360                  365

Ser Val Gly Phe Gly Asn Ile Ala Pro Ser Thr Asp Ile Glu Lys Ile

370

375

380

Phe Ala Val Ala Ile Met Met Ile Gly  
385 390

<210> 78  
<211> 283  
<212> PRT  
<213> Homo sapiens

<400> 78  
Met Cys Asn Thr Pro Thr Tyr Cys Asp Leu Gly Lys Ala Ala Lys Asp  
1 5 10 15  
Val Phe Asn Lys Gly Tyr Gly Phe Gly Met Val Lys Ile Asp Leu Lys  
20 25 30  
Thr Lys Ser Cys Ser Gly Val Glu Phe Ser Thr Ser Gly His Ala Tyr  
35 40 45  
Thr Asp Thr Gly Lys Ala Ser Gly Asn Leu Glu Thr Lys Tyr Lys Val  
50 55 60  
Cys Asn Tyr Gly Leu Thr Phe Thr Gln Lys Trp Asn Thr Asp Asn Thr  
65 70 75 80  
Leu Gly Thr Glu Ile Ser Trp Glu Asn Lys Leu Ala Glu Gly Leu Lys  
85 90 95  
Leu Thr Leu Asp Thr Ile Phe Val Pro Asn Thr Gly Lys Lys Ser Gly  
100 105 110  
Lys Leu Lys Ala Ser Tyr Lys Arg Asp Cys Phe Ser Val Gly Ser Asn  
115 120 125  
Val Asp Ile Asp Phe Ser Gly Pro Thr Ile Tyr Gly Trp Ala Val Leu  
130 135 140  
Ala Phe Glu Gly Trp Leu Ala Gly Tyr Gln Met Ser Phe Asp Thr Ala  
145 150 155 160  
Lys Ser Lys Leu Ser Gln Asn Asn Phe Ala Leu Gly Tyr Lys Ala Ala  
165 170 175  
Asp Phe Gln Leu His Thr His Val Asn Asp Gly Thr Glu Phe Gly Gly  
180 185 190  
Ser Ile Tyr Gln Lys Val Asn Glu Lys Ile Glu Thr Ser Ile Asn Leu  
195 200 205  
Ala Trp Thr Ala Gly Ser Asn Asn Thr Arg Phe Gly Ile Ala Ala Lys  
210 215 220  
Tyr Met Leu Asp Cys Arg Thr Ser Leu Ser Ala Lys Val Asn Asn Ala  
225 230 235 240

Ser Leu Ile Gly Leu Gly Tyr Thr Gln Thr Leu Arg Pro Gly Val Lys  
245 250 255

Leu Thr Leu Ser Ala Leu Ile Asp Gly Lys Asn Phe Ser Ala Gly Gly  
260 265 270

His Lys Val Gly Leu Gly Phe Glu Leu Glu Ala  
275 280

<210> 79  
<211> 262  
<212> PRT  
<213> Homo sapiens

<400> 79  
Pro Leu Leu Thr Ser Ala Ile Ile Phe Tyr Leu Ala Ile Gly Ala Ala  
1 5 10 15

Ile Phe Glu Val Leu Glu Glu Pro His Trp Lys Glu Ala Lys Lys Asn  
20 25 30

Tyr Tyr Thr Gln Lys Leu His Leu Leu Lys Glu Phe Pro Cys Leu Gly  
35 40 45

Gln Glu Gly Leu Asp Lys Ile Leu Glu Val Val Ser Asp Ala Ala Gly  
50 55 60

Gln Gly Val Ala Ile Thr Gly Asn Gln Thr Phe Asn Asn Trp Asn Trp  
65 70 75 80

Pro Asn Ala Met Ile Phe Ala Ala Thr Val Ile Thr Thr Ile Tyr Gly  
85 90 95

Asn Val Ala Pro Lys Thr Pro Ala Gly Arg Leu Phe Cys Val Phe Tyr  
100 105 110

Gly Leu Phe Gly Val Pro Leu Cys Leu Thr Trp Ile Ser Ala Leu Gly  
115 120 125

Lys Phe Phe Gly Gly Arg Ala Lys Arg Leu Gly Gln Phe Leu Thr Lys  
130 135 140

Arg Gly Val Ser Leu Arg Lys Ala Gln Ile Thr Cys Thr Val Ile Phe  
145 150 155 160

Ile Val Trp Gly Val Leu Val His Leu Val Ile Pro Pro Phe Val Phe  
165 170 175

Met Val Thr Glu Gly Trp Asn Tyr Ile Glu Gly Leu Tyr Tyr Ser Phe  
180 185 190

Ile Thr Ile Ser Thr Ile Gly Phe Gly Asp Phe Val Ala Val Asn Pro  
195 200 205

Ser Ala Asn Tyr His Ala Leu Tyr Arg Tyr Phe Val Glu Leu Trp Ile  
210 215 220

Tyr Leu Gly Leu Ala Trp Leu Ser Leu Phe Val Asn Trp Lys Val Ser  
225 230 235 240

Met Phe Val Glu Val His Lys Ala Ile Lys Lys Arg Arg Arg Arg Arg  
245 250 255

Lys Glu Ser Phe Glu Ser  
260

<210> 80  
<211> 118  
<212> PRT  
<213> Blattella germanica

<400> 80  
Tyr Leu Asn Met Ile Phe Ile Val Ile Phe Ser Ser Glu Cys Leu Met  
1 5 10 15

Lys Ile Phe Ala Leu Arg Tyr His Tyr Phe Lys Glu Pro Trp Asn Leu  
20 25 30

Phe Asp Phe Val Val Val Ile Leu Ser Ile Leu Gly Leu Val Leu Ser  
35 40 45

Asp Ile Ile Glu Lys Tyr Phe Val Ser Pro Thr Leu Leu Arg Val Val  
50 55 60

Arg Val Ala Lys Val Gly Arg Val Leu Arg Leu Val Lys Gly Ala Lys  
65 70 75 80

Gly Ile Arg Thr Leu Leu Phe Ala Leu Ala Met Ser Leu Pro Ala Leu  
85 90 95

Phe Asn Ile Cys Leu Leu Phe Leu Val Met Phe Ile Phe Ala Ile  
100 105 110

Phe Gly Met Ser Phe Phe  
115

<210> 81  
<211> 98  
<212> PRT  
<213> Homo sapiens

<400> 81  
Met Thr Asp Pro Val Thr Leu Asn Val Gly Gly His Leu Tyr Thr Thr  
1 5 10 15

Ser Leu Thr Thr Leu Thr Arg Tyr Pro Asp Ser Met Leu Gly Ala Met  
20 25 30

Phe Gly Gly Asp Phe Pro Thr Ala Arg Asp Pro Gln Gly Asn Tyr Phe  
35 40 45

Ile Asp Arg Asp Gly Pro Leu Phe Arg Tyr Val Leu Asn Phe Leu Arg  
50 55 60

Thr Ser Glu Leu Thr Leu Pro Leu Asp Phe Lys Glu Phe Asp Leu Leu  
65 70 75 80

Arg Lys Glu Ala Asp Phe Tyr Gln Ile Glu Pro Leu Ile Gln Cys Leu  
85 90 95

Asn Asp

<210> 82

<211> 285

<212> PRT

<213> Homo sapiens

<400> 82

Arg Thr Ala Phe Cys Lys Asp His Asp Ser Arg Ser Gly Lys Gln Pro  
1 5 10 15

Ser Gln Thr Leu Ser Pro Ser Asp Phe Leu Asp Lys Leu Met Gly Arg  
20 25 30

Thr Ser Gly Tyr Asp Ala Arg Ile Arg Pro Asn Phe Lys Pro Pro Val  
35 40 45

Asn Val Thr Cys Asn Ile Phe Ile Asn Ser Phe Gly Ser Val Thr Glu  
50 55 60

Thr Thr Met Asp Tyr Arg Val Asn Ile Phe Leu Arg Gln Gln Trp Asn  
65 70 75 80

Asp Ser Arg Leu Ala Tyr Ser Glu Tyr Pro Asp Asp Ser Leu Asp Leu  
85 90 95

Asp Pro Ser Met Leu Asp Ser Ile Trp Lys Pro Asp Leu Phe Phe Ala  
100 105 110

Asn Glu Lys Gly Ala Asn Phe His Asp Val Thr Thr Asp Asn Lys Leu  
115 120 125

Leu Arg Ile Ser Lys Asn Gly Lys Val Leu Tyr Ser Ile Leu Thr Leu  
130 135 140

Thr Leu Ser Cys Pro Met Asp Leu Lys Asn Phe Pro Met Asp Val Gln  
145 150 155 160

Thr Cys Thr Met Gln Leu Glu Ser Gly Tyr Thr Met Asn Asp Leu Ile  
165 170 175

Phe Glu Trp Leu Ser Asp Gly Pro Val Gln Val Ala Glu Gly Leu Thr  
180 185 190

Leu Pro Gln Phe Ile Leu Lys Glu Glu Lys Glu Leu Gly Tyr Cys Thr  
195 200 205

Lys His Tyr Asn Thr Lys Phe Thr Cys Ile Glu Val Lys Phe His Leu  
210 215 220

Glu Arg Gln Met Gly Tyr Tyr Leu Ile Gln Met Tyr Ile Pro Ser Leu  
225 230 235 240

Leu Ile Val Ile Leu Ser Trp Val Ser Phe Trp Ile Asn Met Asp Ala  
245 250 255

Ala Pro Ala Arg Val Ala Leu Gly Ile Thr Thr Val Leu Thr Met Thr  
260 265 270

Thr Gln Ser Ser Gly Ser Arg Ala Ser Leu Pro Lys Val  
275 280 285

<210> 83

<211> 83

<212> PRT

<213> Homo sapiens

<400> 83

Lys Leu Ser Ser Asn Arg Glu Arg His Val Pro Val Cys Glu Asp Leu  
1 5 10 15

Glu Leu Arg Arg Asp Ser Gly Ser Ala Gly Thr Gln Ala His Cys Leu  
20 25 30

Leu Leu Arg Arg Ala Asn Pro Ser Cys His Ser Arg Glu Ser Gln Ala  
35 40 45

Ala Met Ala Gly Gln Glu Glu Thr Ser Gln Asp Glu Thr Tyr Glu Val  
50 55 60

Lys Met Asn His Asp Thr Glu Ala Cys Ser Glu Pro Ser Leu Leu Ser  
65 70 75 80

Thr Glu Met

<210> 84

<211> 90

<212> PRT

<213> Homo sapiens

<400> 84

Arg Val Gln Glu Val Ala Trp Lys Leu Ser Ser Asn Arg Glu Arg His  
1 5 10 15

Val Pro Val Cys Glu Asp Leu Glu Leu Arg Arg Asp Ser Gly Ser Ala  
20 25 30

Gly Thr Gln Ala His Cys Leu Leu Arg Arg Ala Asn Pro Ser Cys  
35 40 45

His Ser Arg Glu Ser Gln Ala Ala Met Ala Gly Gln Glu Glu Thr Ser  
50 55 60

Gln Asp Glu Thr Tyr Glu Val Lys Met Asn His Asp Thr Glu Ala Cys  
65 70 75 80

Ser Glu Pro Ser Leu Leu Ser Thr Glu Met  
85 90

<210> 85  
<211> 43  
<212> PRT  
<213> Homo sapiens

<400> 85  
Asn Ser Asn Leu His Ala Cys Asp Ser Gly Ala Ser Ile Arg Trp Gln  
1 5 10 15

Val Val Asp Arg Arg Ile Pro Leu Tyr Ala Asn His Lys Thr Leu Leu  
20 25 30

Gln Lys Ala Ala Ala Glu Phe Gly Ala His Tyr  
35 40

<210> 86  
<211> 281  
<212> PRT  
<213> Homo sapiens

<220>  
<221> MOD\_RES  
<222> (94)..(108)  
<223> Any amino acid

<400> 86  
Glu Asn Ser His Asn Lys Ala Arg Thr Ser Pro Tyr Pro Gly Ser Lys  
1 5 10 15

Val Glu Arg Ser Gln Val Pro Asn Glu Lys Val Gly Trp Leu Val Glu  
20 25 30

Trp Gln Asp Tyr Lys Pro Val Glu Tyr Thr Ala Val Ser Val Leu Ala  
35 40 45

Gly Pro Arg Trp Ala Asp Pro Gln Ile Ser Glu Ser Asn Phe Ser Pro  
50 55 60

Lys Phe Asn Glu Lys Asp Gly His Val Glu Arg Lys Ser Lys Asn Gly  
65 70 75 80

Leu Tyr Glu Ile Glu Asn Gly Arg Pro Arg Asn Pro Ala Xaa Xaa Xaa  
85 90 95

Xaa Pro Asn His Ala  
100 105 110

Ala Asp Pro Ile Ile Thr Arg Trp Lys Arg Asp Ser Ser Gly Asn Lys

115

120

125

Ile Met His Pro Val Ser Gly Lys His Ile Leu Gln Phe Val Ala Ile  
130 135 140

Lys Arg Lys Asp Cys Gly Glu Trp Ala Ile Pro Gly Gly Met Val Asp  
145 150 155 160

Pro Gly Glu Lys Ile Ser Ala Thr Leu Lys Arg Glu Phe Gly Glu Glu  
165 170 175

Ala Leu Asn Ser Leu Gln Lys Thr Ser Ala Glu Lys Arg Glu Ile Glu  
180 185 190

Glu Lys Leu His Lys Leu Phe Ser Gln Asp His Leu Val Ile Tyr Lys  
195 200 205

Gly Tyr Val Asp Asp Pro Arg Asn Thr Asp Asn Ala Trp Met Glu Thr  
210 215 220

Glu Ala Val Asn Tyr His Asp Glu Thr Gly Glu Ile Met Asp Asn Leu  
225 230 235 240

Met Leu Glu Ala Gly Asp Asp Ala Gly Lys Val Lys Trp Val Asp Ile  
245 250 255

Asn Asp Lys Leu Lys Leu Tyr Ala Ser His Ser Gln Phe Ile Lys Leu  
260 265 270

Val Ala Glu Lys Arg Asp Ala His Trp  
275 280

<210> 87

<211> 268

<212> PRT

<213> Homo sapiens

<400> 87

Asp Ser Tyr His Val Asn Ala Arg His Leu Leu Tyr Pro Asn Cys Pro  
1 5 10 15

Val Thr Arg Phe Pro Val Pro Asn Glu Lys Val Pro Trp Glu Thr Glu  
20 25 30

Phe Leu Ile Tyr Asp Pro Pro Phe Tyr Thr Ala Glu Arg Lys Asp Ala  
35 40 45

Ala Ala Met Asp Pro Met Gly Asp Thr Leu Glu Pro Leu Ser Thr Ile  
50 55 60

Gln Tyr Asn Val Val Asp Gly Leu Arg Asp Arg Arg Ser Phe His Gly  
65 70 75 80

Pro Tyr Thr Val Gln Ala Gly Leu Pro Leu Asn Pro Met Gly Arg Thr  
85 90 95

Gly Leu Arg Gly Arg Gly Ser Leu Ser Cys Phe Gly Pro Asn His Thr  
100 105 110

Leu Tyr Pro Met Val Thr Arg Trp Arg Arg Asn Glu Asp Gly Ala Ile  
115 120 125

Cys Arg Lys Ser Ile Lys Lys Met Leu Glu Val Leu Val Val Lys Leu  
130 135 140

Pro Leu Ser Glu His Trp Ala Leu Pro Gly Gly Ser Arg Glu Pro Gly  
145 150 155 160

Glu Met Leu Pro Arg Lys Leu Lys Arg Ile Leu Arg Gln Glu His Trp  
165 170 175

Pro Ser Phe Glu Asn Leu Leu Lys Cys Gly Met Glu Val Tyr Lys Gly  
180 185 190

Tyr Met Asp Asp Pro Arg Asn Thr Asp Asn Ala Trp Ile Glu Thr Val  
195 200 205

Ala Val Ser Val His Phe Gln Asp Gln Asn Asp Val Glu Leu Asn Arg  
210 215 220

Leu Asn Ser Asn Leu His Ala Cys Asp Ser Gly Ala Ser Ile Arg Trp  
225 230 235 240

Gln Val Val Asp Arg Arg Ile Pro Leu Tyr Ala Asn His Lys Thr Leu  
245 250 255

Leu Gln Lys Ala Ala Ala Glu Phe Gly Ala His Tyr  
260 265

<210> 88  
<211> 99  
<212> PRT  
<213> Zea mays

<400> 88  
Leu Leu Lys Arg Gly Leu Asp Pro Asn Glu Ser Asp Asn Asn Gly His  
1 5 10 15

Thr Ala Leu His Ile Ala Ala Ser Lys Gly Asp Glu Gln Cys Val Lys  
20 25 30

Leu Leu Leu Glu His Gly Ala Asp Pro Asn Ala Arg Asp Ser Glu Gly  
35 40 45

Lys Val Pro Leu Trp Glu Ala Leu Cys Glu Lys Gln Asn Pro Val Val  
50 55 60

Glu Leu Leu Val Gln Ser Gly Ala Gly Leu Ser Ser Gly Asp Val Ala  
65 70 75 80

Leu Tyr Ser Cys Val Ala Val Glu Glu Asn Asp Pro Glu Leu Leu Glu  
85 90 95

~~Asn Ile Ile~~